AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims

1. **(Currently Amended)** A kit for the detection and measurement of a positively charged transition element in a sample by an inductively coupled plasma mass spectrometer or an inductively coupled plasma optical emission spectrometer, where the measured transition element is a tag on a biologically active material that binds with at least one of an analyte and analyte complex, comprising:

   (a) at least one tag-organic moiety complex, wherein the at least one tag consists of one or more isotopes of one or more positively charged transition elements ~~and a linker moiety~~ and the organic moiety is complexed to the tag, wherein the tag-organic moiety complex is capable of ~~directly~~ tagging a biologically active material;

   (b) instructions for i) tagging a biologically active material with the tag-organic moiety complex; ii) combining the tagged biologically active material with at least one of an analyte and analyte complex under conditions in which the tagged biologically active material binds with at least one of the analyte and analyte complex, iii) separating bound tagged biologically active material from unbound material, and iv) detecting and measuring the positively charged transition element by an inductively coupled mass spectrometer or an inductively coupled optical emission spectrometer; and

   (c) packaging means,

   ~~and~~ wherein said transition element is any element having an atomic number of 21-29, 39-47, 57-79 or 89.

2. (Previously Presented) The kit of claim 1 further comprising a biologically active material, wherein the biologically active material is directly tagged with at least one isotope of a tag comprising a transition element.

3. **(Currently Amended)** A kit for the detection and measurement of a positively charged transition element in a sample by an inductively coupled plasma mass spectrometer or an

inductively coupled plasma optical emission spectrometer, where the measured transition element is a tag on a competition analyte, comprising:

(a) at least one tag-organic moiety complex wherein the at least one tag consists of one or more isotopes of one or more positively charged transition elements ~~and a linker moiety~~ and the organic moiety complex is complexed to the tag, wherein the tag-organic moiety complex is capable of tagging a competition analyte;

(b) instructions for i) tagging the competition analyte with the tag-organic moiety complex, (ii) combining the tagged competition analyte with at least one of the analyte and analyte complex, where the tagged competition analyte and at least one of the analyte and analyte complex are in competition for a binding site, iii) separating bound tagged competition analyte from the unbound tagged competition analyte, and iv) detecting and measuring the positively charged transition element on the bound competition analyte by an inductively coupled mass spectrometer or an inductively coupled optical emission spectrometer, wherein the detection and measurement of the tag element on the bound competition analyte is related to the detection and measurement of at least one of the analyte and analyte complex; and

(c) packaging means,

~~and~~ wherein said transition element is any element having an atomic number of 21-29, 39-47, 57-79 or 89.

4. (Previously Presented) The kit of claim 3 further comprising a competition analyte, wherein the competition analyte is directly tagged with a tag comprising at least one isotope of a transition element.

5. (Previously Presented) The kit of claim 1 further comprising capture molecules that bind the analyte, analyte complex or competition analyte.

6. (Previously Presented) The kit of claim 1 further comprising solid support means, wherein the solid support means comprises binding sites for one of the analyte and a capture molecule.

7. (Original) The kit of claim 6 wherein the solid support means is selected from the group consisting of microwell plates and beads.

8. (Original) The kit of claim 7 wherein the beads are selected from the group consisting of sepharose beads, agarose beads, polystyrene beads and polymeric microspheres.

9. (Original) The kit of claim 6 wherein the capture molecules are selected from the group consisting of antibodies and aptamers.

10. (Previously Presented) The kit of claim 1 further comprising standards.

11. (Previously Presented) The kit of claim 1 further comprising a dilution buffer.

12. (Previously Presented) The kit of claim 1 further comprising an elution buffer.

13. (Previously Presented) The kit of claim 1 further comprising a wash buffer.

14. (Previously Presented) The kit of claim 1 further comprising an assay buffer.

15.-19. (Canceled)

20. (Previously Presented) The kit of claim 1 wherein the isotope is selected from a group consisting of the noble metals, lanthanides, rare earth elements, gold, silver, platinum, rhodium, iridium and palladium.

21. (Original) The kit of claim 3 wherein the biologically active material is selected from a group consisting of an antibody, Fab, aptamer, antigen, hormone, growth factor, receptor, protein and nucleic acid.

22. (Previously Presented) The kit of claim 1 wherein the tag includes more than one element.

23. (Previously Presented) The kit of claim 1 wherein the tag includes more than one isotope.

24. (Previously Presented) The kit of claim 1 wherein the tag includes more than one atom of an isotope.

25. (Previously Presented) The kit of claim 23 wherein the tag includes a different number of atoms of each isotope.

26. (Previously Presented) The kit of claim 1 comprising two or more tags for simultaneous determination of two or more analytes.

27. (Previously Presented) The kit of claim 2 comprising two or more tags for simultaneous determination of two or more analytes.

28. (Canceled)

29. **(Currently Amended)** A kit for the detection and measurement of an element in a sample by an inductively coupled plasma mass spectrometer or an inductively coupled plasma optical emission spectrometer, where the measured element is a tag on an analyte in a sample, comprising:

(a) at least one tag-organic moiety complex, wherein the at least one tag consists of one or more isotopes of one or more positively charged transition elements ~~and a linker moiety~~ and the organic moiety complex is complexed to the tag, for ~~directly~~ tagging the analyte with a transition element;

(b) reagents for tagging the analyte with the tag;

(c) reagents for running a sample containing the tagged analyte on an electrophoresces gel;

(d) instructions for i) tagging the analyte with the tag-organic moiety complex, ii) running the sample containing the tagged analyte on an electrophoresces gel, and iii) detecting and measuring the positively charged transition element by an inductively coupled mass spectrometer or an inductively coupled optical emission spectrometer; and

(e) packaging means,

~~and~~ wherein said transition element is any element having an atomic number of 21-29, 39-47, 57-79 or 89.

30.-36. (Canceled)